

THE CLAIMS

What is claimed is:

1. A method for providing access to a communications medium, the communications medium being suitable for allowing use of a plurality of Home Phoneline Network Association (HPNA) v2 frames, the method comprising steps of:

transmitting a plurality of messages between a first enhanced station (STA) and a second enhanced STA, each enhanced STA being one of a Media Control Station (MC STA) and a non-MC STA, each transmitted message being transmitted in an enhanced frame, each enhanced frame having timing to allow an Inter-Frame Gap (IFG); and

transmitting a blocking signal during at least one IFG between enhanced frames to mask the presence of the IFG to a non-enhanced STA.

2. The method according to claim 1, wherein the first enhanced STA is the MC-STA and the second enhanced STA is a non-MC STA.

3. The method according to claim 1, wherein the first and second enhanced STA are each a non-MC STA.

4. The method according to claim 1, wherein the step of transmitting the plurality of messages between the first enhanced STA and the second enhanced STA includes steps of:

transmitting a first message from an MC STA to a non-MC STA; and

transmitting at least one reply message from the non-MC STA to the MC STA.

5. The method according to claim 4, wherein the step of transmitting the blocking signal further transmits the blocking signal during at least one reply message.

6. The method according to claim 1, wherein the blocking signal is transmitted by the MC STA.

7. The method according to claim 1, wherein the blocking signal is transmitted by a non-MC STA.

8. The method according to claim 1, wherein the step of transmitting the blocking signal includes a step of transmitting the blocking signal during at least one message.

9. The method according to claim 1, wherein the step of transmitting the plurality of messages between the first enhanced STA and the second enhanced STA includes steps of:

transmitting a first message from the MC STA to a first non-MC STA; and
transmitting at least one second message from the first non-MC STA to at least one other non-MC STA.

10. The method according to claim 1, wherein the blocking signal is one of a sine wave signal and a cosine wave signal.

11. A method for providing access to a communications medium, the communications medium being suitable for allowing use of a plurality of Home Phoneline Network Association (HPNA) v2 frames, each HPNA v2 frame being timed to allow a plurality of physical layer priority level slots, the method comprising steps of:

transmitting a plurality of messages between a first enhanced station (STA) and a second enhanced STA, each enhanced STA being one of a Media Control Station (MC STA) and a non-MC STA, each transmitted message being contained in an enhanced frame and being transmitted with a highest physical layer priority level available in an HPNA v2 frame, each enhanced frame having timing to allow an Inter-Frame Gap (IFG); and

transmitting a blocking signal during at least one IFG between enhanced frames to mask the presence of the IFG to a non-enhanced STA.

12. The method according to claim 11, wherein the first enhanced STA is the MC-STA and the second enhanced STA is a non-MC STA.

13. The method according to claim 11, wherein the first and second enhanced STA are each a non-MC STA.

14. The method according to claim 11, wherein the step of transmitting the plurality of messages between the first enhanced STA and the second enhanced STA includes steps of:

transmitting a first message from an MC STA to a non-MC STA; and
transmitting at least one reply message from the non-MC STA to the MC STA.

15. The method according to claim 14, wherein the step of transmitting the blocking signal further transmits the blocking signal during at least one reply message.

16. The method according to claim 11, wherein the blocking signal is transmitted by the MC STA.

17. The method according to claim 11, wherein the blocking signal is transmitted by a non-MC STA.

18. The method according to claim 11, wherein the step of transmitting the blocking signal includes a step of transmitting the blocking signal during at least one message.

19. The method according to claim 11, wherein the step of transmitting the plurality of messages between the first enhanced STA and the second enhanced STA includes steps of:

transmitting a first message from the MC STA to a first non-MC STA; and
transmitting at least one second message from the first non-MC STA to at least one other non-MC STA.

20. The method according to claim 11, wherein the blocking signal is one of a sine wave signal and a cosine wave signal.

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21. A communications network, comprising:

a communications medium that is suitable for allowing use of a plurality of Home Phoneline Network Association (HPNA) v2 frames;

a plurality of enhanced stations (STAs) coupled to the communications medium, each enhanced STA being one of a Media Control Station (MC STA) and a non-MC STA;

a plurality of messages being transmitted in the communications medium between a first enhanced STA and a second enhanced STA, each message being transmitted in an enhanced frame, each enhanced frame having timing to include an Inter-Frame Gap (IFG); and

a blocking signal transmitted in the communications medium during at least one IFG between enhanced frames to mask a presence of the IFG to a non-enhanced STA.

22. The communications network according to claim 21, wherein the first enhanced STA is the MC-STA and the second enhanced STA is a non-MC STA.

23. The communications network according to claim 21, wherein the first and second enhanced STA are each a non-MC STA.

24. The communications network according to claim 23, wherein the plurality of messages between the first enhanced STA and the second enhanced STA includes a first message transmitted from an MC STA to a non-MC STA and at least one reply message transmitted from the non-MC STA to the MC STA.

25. The communications network according to claim 24, wherein the blocking signal is transmitted during at least one reply message.

26. The communications network according to claim 21, wherein the MC STA transmits the blocking signal.

27. The communications network according to claim 21, wherein a non-MC STA transmits the blocking signal.

28. The communications network according to claim 21, wherein the blocking signal is transmitted during at least one message.

29. The communications network according to claim 21, wherein a first message is transmitted from the MC STA to a first non-MC STA, and at least one second message is transmitted from the first non-MC STA to at least one other non-MC STA.

30. The communications network according to claim 21, wherein the blocking signal is one of a sine wave signal and a cosine wave signal.

31. A communications network, comprising:

a communications medium that is suitable for allowing use of a plurality of Home Phoneline Network Association (HPNA) v2 frames, each HPNA v2 frame being time to allow a plurality of physical layer priority level slots;

a plurality of enhanced stations (STAs) coupled to the communications medium, each enhanced STA being one of a Media Control Station (MC STA) and a non-MC STA;

a plurality of messages being transmitted in the communications medium between a first enhanced STA and a second enhanced STA, each message being transmitted in an enhanced frame and being transmitted with a highest physical layer priority level available in an HPNA v2 frame, each enhanced frame having timing to include an Inter-Frame Gap (IFG); and

a blocking signal transmitted in the communications medium during at least one IFG between enhanced frames to mask a presence of the IFG to a non-enhanced STA.

32. The communications network according to claim 31, wherein the first enhanced STA is the MC-STA and the second enhanced STA is a non-MC STA.

33. The communications network according to claim 31, wherein the first and second enhanced STA are each a non-MC STA.

34. The communications network according to claim 31, wherein the plurality of messages between the first enhanced STA and the second enhanced STA includes a first message transmitted from an MC STA to a non-MC STA and at least one reply message transmitted from the non-MC STA to the MC STA.

35. The communications network according to claim 34, wherein the blocking signal is transmitted during at least one reply message.

36. The communications network according to claim 31, wherein the MC STA transmits the blocking signal.

37. The communications network according to claim 31, wherein a non-MC STA transmits the blocking signal.

38. The communications network according to claim 31, wherein the blocking signal is transmitted during at least one message.

39. The communications network according to claim 31, wherein a first message is transmitted from the MC STA to a first non-MC STA, and at least one second message is transmitted from the first non-MC STA to at least one other non-MC STA.

40. The communications network according to claim 41, wherein the blocking signal is one of a sine wave signal and a cosine wave signal.

41. A Media Control station (MC STA) for a communications network having a communications medium, the communications medium being suitable for allowing use of a plurality of Home Phoneline Network Association (HPNA) v2 frames, the MC STA comprising:

a QoS management entity (QME) receiving at least one end-to-end QoS message characterizing a user application, the at least one end-to-end QoS message including at least one QoS parameter set that is expressed at a layer that is higher than the Media Access Control (MAC) sublayer of an HPNA v2 network and is to be passed down to the MAC sublayer of the MC STA for enabling QoS traffic transport of the application; and

an admission control entity (ACE) performing an admission control decision relating to the application based on the at least one end-to-end QoS message characterizing the application,

the MC STA transmitting a first message to a selected non-Media Controller station (non-MC STA), the first message being contained in an enhanced frame having timing to allow an Inter-Frame Gap (IFG), the MC STA transmitting a blocking signal during at least one IFG to mask the presence of the IFG to a non-enhanced STA.

42. The MC STA according to claim 41, wherein the MC STA receives at least one second message from the selected non-MC STA, each reply message being contained in an enhanced frame.

43. The MC STA according to claim 41, wherein the MC STA further transmits the blocking signal during at least one second message.

44. The MC STA according to claim 41, wherein at least one second message is transmitted from the selected non-MC STA to at least one other non-MC STA.

45. The MC STA according to claim 41, wherein each HPNA v2 frame being timed to allow a plurality of a plurality of physical layer priority level slots, and

wherein the first message is transmitted with a highest physical layer priority level available in an HPNA v2 frame.

46. The MC STA according to claim 45, wherein the MC STA receives at least one second message from the selected non-MC STA, each second message starting in starting at a highest physical layer priority level slot available with the HPNA v2-formatted frame.

47. The MC STA according to claim 41, wherein the blocking signal is one of a sine wave signal and a cosine wave signal.